

EXHIBIT E

# **REMEDIAL INVESTIGATION REPORT**

**FORMER F SHARP SCREW FACILITY  
SOMERVILLE, NEW JERSEY  
ISRA CASE Nos. E85647, E85648, E85649**

*Prepared For:*

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**2000.100**

**Remedial Investigation Report (RIR)**

Based on the Bound Brook, NJ USGS Topographic Quadrangle map, regional groundwater is expected to follow the local topographic gradient which is generally southeast toward the Raritan River. Groundwater flow is variable across the Site. On the western portion of the Site groundwater flow appears to be generally to the southwest while flow on the eastern portion of the Site is to the southeast. The Site is located on a local topographic high and may be located on a groundwater divide. A small, unnamed stream is located approximately 1000 feet to the southeast of the Site and Peters Brook is located approximately 1,800 feet to the west. Both streams flow southward and discharge to the Raritan River.

**3.2.4 Soils**

The soils encountered in this area consist of low permeability silts and silty clays overlying shallow weathered shale, formed from material weathered from shale, siltstone, and fine-grained sandstone. Shale bedrock is at a depth of approximately 4 to 6 feet, as described in the 1976 US Department of Agriculture Soil Survey of Somerset County, New Jersey.

**3.3 AREAS OF CONCERN**

Two (2) Areas of Concern (AOCs) remain at the Site. There have been many AOCs at the Site historically; however, through investigation and remediation the only remaining issues are related to groundwater. Soil issues at the site have been addressed, as confirmed by the Department's September 4, 2001 correspondence and re-affirmed in the Department's letter of November 17, 2004. The following presents a brief description of the two remaining AOCs.

1. The Western Groundwater Plume comprises the western portion of the site and probably extends to upgradient areas to the west. The source of the western plume is believed to be the area immediately upgradient of the F Sharp and Truckform Properties. According to historic Sanborn fire insurance maps the Truckform Property was operated as the machine shop for the former Somerville Iron Works. Concentrations of chlorinated volatile organic compounds (TCE and cis-1,2-DCE) have been detected in this area since the initial monitoring wells were installed in 1989. While the downgradient extent of the plume has been largely determined by the installation of monitoring wells in the central portion of the site, the upgradient extent of the plume has not been determined. Recent investigation activities indicate that there are leaks in the public sanitary sewer system. Data obtained from the Somerville Sewer Department indicates that the sewers in the Fairview Avenue, James and Haynes Streets were installed circa 1911. Additional investigation activities are proposed below to address the potential that historic operations at the property may have impacted the soil and groundwater offsite and upgradient through discharges from the sanitary sewer.
2. The Eastern Groundwater Plume is located in the southeastern portion of the former F Sharp property along the railroad tracks. The plume appears to originate in the vicinity of the MW-4 monitoring well cluster and extends offsite to the east on the neighboring property near MW-11. The upgradient extent of the eastern plume has been determined but the vertical and horizontal downgradient extent have not been determined. The location of each of these two AOCs is illustrated in Figure 2.